

REMARKS

Applicants request favorable reconsideration and allowance of the present application in view of the foregoing amendments and the following remarks.

Claims 1, 3, 4, 6-10, 12-19, 24-29, 31, and 32 are pending in the present application. Claims 1, 10, 19, 31, and 32 are the independent claims.

Applicants appreciate the Examiner's detailed comments in the Advisory Action mailed April 2, 2004. Claims 1, 10, 19, 31, and 32 have been amended to clarify certain features of the claimed invention in view of those comments. Applicants submit that support for these amendments can be found in the original disclosure, and therefore no new matter has been added.

Claims 1, 3, 4, 6-10, 12-19, 24-29, 31 and 32 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,522,312 (Ohshima et al.) in view of U.S. Patent No. 6,624,853 (Latypov) and U.S. Patent No. 6,445,815 (Sato). This rejection is respectfully traversed.

As recited in independent Claim 1, the present invention relates to an augmented reality presentation apparatus for superimposing a virtual object in a real space, characterized by including objective viewpoint augmented reality presentation means for superimposing the virtual object viewed from a first viewpoint position, which differs from any player's viewpoint position, in the real space viewed from the first viewpoint position. An objective viewpoint video display means displays an augmented reality video viewed from the first viewpoint position on a screen of a predetermined display apparatus. The apparatus further includes player's viewpoint augmented reality presentation means for superimposing the virtual object viewed from a player's viewpoint position in the real

space viewed from the player's viewpoint position. The player's viewpoint augmented reality presentation means includes display means for displaying to the player the augmented reality video viewed from the player's viewpoint position on a screen of a player's display apparatus separate from the predetermined display apparatus. As emphasized in amended Claim 1 presented above, the predetermined display apparatus (on which the video from the first viewpoint position is displayed) is separate from any player's display apparatus.

With the above arrangement, an augmented reality video can be generated according to a player's viewpoint and displayed on a screen in a player's head mounted display and an augmented reality video can be generated according to another viewpoint different from the player's viewpoint and displayed on a screen of a predetermined display apparatus separate from any player's head mounted display. This permits a third party other than a player to view the augmented reality video from another viewpoint different from any player's viewpoint.

Applicants submit that the cited art fails to disclose or suggest at least the above-mentioned combination of features. Ohshima et al. is directed to an apparatus for presenting mixed reality shared among operators. However, that reference does not disclose or suggest at least the feature of displaying an augmented reality video viewed from a first viewpoint, which differs from any player's viewpoint position, on a screen of a predetermined display apparatus that is separate from any player's display apparatus. In the comments contained in the Advisory Action, the Examiner asserts that this reference discloses displaying an augmented reality video viewed from a first viewpoint position on a screen of a predetermined display apparatus because a virtual puck is presented to a player

by superpose-displaying it as a virtual three-dimensional image on a table in a real environment.

If the Examiner is suggesting that the table is a “predetermined display apparatus,” Applicants respectfully disagree. Claim 1 recites that the augmented reality video is displayed “on a screen of a predetermined display apparatus.” The table does not have a screen. Further, Claim 1 recites that the augmented reality video displayed on the screen is composed on the basis of videos of the real space and the virtual object. Therefore, Applicants submit that projecting an image of a virtual puck onto a real table would not meet the limitation of displaying an augmented reality video. Moreover, Applicants submit that Ohshima, et al. does not disclose or suggest projecting an image of the puck onto the actual table and does not disclose or suggest any projection apparatus for doing so. Instead, that patent discloses that the three-dimensional virtual image associated with the collaborative operation done by a plurality of operators in a mixed reality environment is generated and displayed on see-through display devices respectively attached to the plurality of operators. *See* Col. 12, lines 43-45. *See also* Col. 3, lines 36-46; Col. 4, lines 57-64; Col. 12, lines 21-30; Col. 13, lines 16-20; Col. 14, lines 31-36, etc.

Thus, even if the image of the puck superposed on the table is deemed to be an “augmented reality video viewed from the first viewpoint position,” that image is only presented to players on each player’s see-through display. Accordingly, Ohshima, et al. fails to disclose or suggest at least the feature of displaying an augmented reality video viewed from a first viewpoint position on a display apparatus that is separate from any player’s display apparatus. More generally, Ohshima, et al. fails to disclose or suggest the combination of features of generating an augmented reality video from a player’s

viewpoint position and displaying it on a player's display apparatus and generating an augmented reality video from a viewpoint position that differs from any player's viewpoint position and displaying it on a display apparatus that is separate from any player's display apparatus.

Applicants submit that the other cited art fails to provide any disclosure or suggestion that would lead one skilled in the art to modify Ohshima, et al. in a manner that would remedy the above-noted deficiency of Ohshima, et al. In particular, Applicants submit that one skilled in the art would not be led to modify the apparatus of Ohshima, et al. in a manner that would meet the claimed limitations even of the teachings of Latypov were considered. In the apparatus of Ohshima, et al., the image captured from camera 230 is merely the table and the mallets moved by the players. This information is processed and combined with virtual data to generate and output three-dimensional virtual images to the head-mounted display devices of the players. However, that patent does not disclose or suggest generating a virtual image from the viewpoint of camera 230. Thus, even if one skilled in the art were motivated to modify the apparatus of Ohshima, et al. to display an image on a display apparatus separate from any player's display apparatus, the image available to be displayed would only be the image from a player's viewpoint. There is no augmented reality image from the viewpoint of camera 230 available for display, and there is no reason one skilled in the art would be motivated to display on a separate apparatus an augmented reality image from the viewpoint looking straight down on the table. Therefore, even if Latypov were considered in combination with Ohshima, et al., it would fail to motivate one skilled in the art to modify Ohshima et al. to meet the claimed limitations.

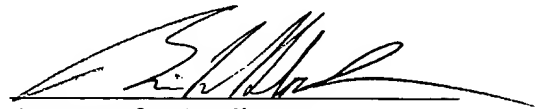
Sato has also been reviewed but is not believed to be any more relevant than the citations discussed above.

For the foregoing reasons, Applicants submit that Claim 1 is patentable over the citations of record. Independent Claims 10, 19, 31 and 32 recite similar features, and are believed to be patentable for similar reasons. Reconsideration and withdrawal of the § 103 rejection are respectfully requested.

For the foregoing reasons, Applicants respectfully submit that the present invention is patentably defined by independent Claims 1, 10, 19, 31 and 32. Dependent Claims 3, 4, 6-9, 12-18 and 24-29 are also allowable, in their own right, for defining features of the present invention in addition to those recited in their respective independent claims. Individual consideration of the dependent claims is requested.

Applicants' undersigned attorney may be reached in our Washington, DC office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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